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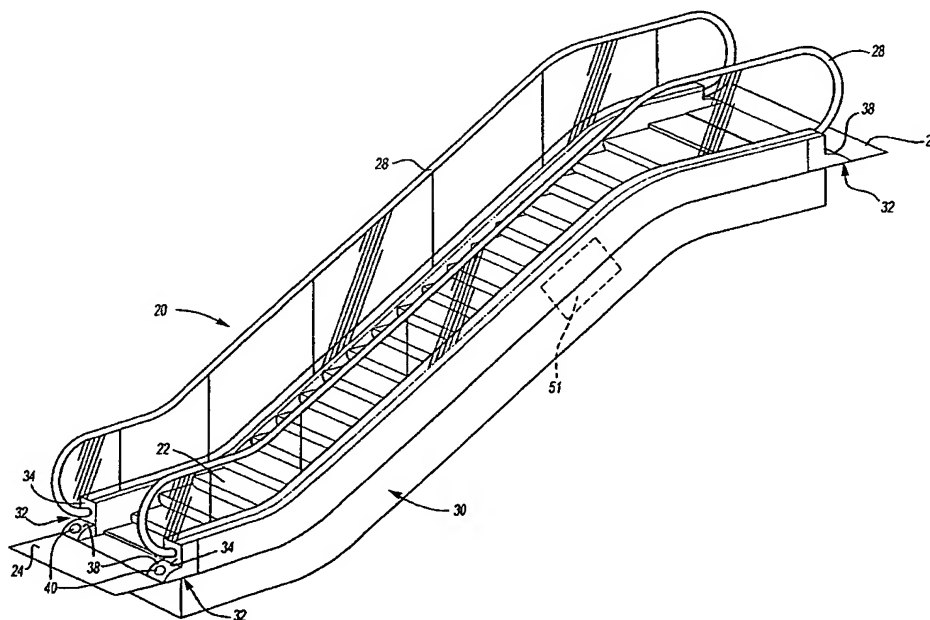
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(54) Title: **TRAFFIC FLOW INDICATOR FOR A PASSENGER CONVEYOR**



(57) Abstract: A display device (40) for use with a passenger conveyor (20) provides traffic flow direction information. One example includes a display panel (42) supported on a surface (38) that is conveniently positioned beneath the handrail (28) near a landing (24). In a particular example, a handrail entry module (32) includes a handrail entry (36) and a support surface (38) that supports the display (40). In one example, the surface (38) extends down and out from a vertical surface (34) associated with the handrail entry (36) to maximize visibility of the display.

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TRAFFIC FLOW INDICATOR FOR A PASSENGER CONVEYOR**1. Field of the Invention.**

This invention generally relates to displays for passenger conveyors. More particularly, this invention relates to a traffic flow indicator display for a passenger conveyor.

2. Description of the Related Art.

Passenger conveyors, such as escalators and moving walkways, typically include a plurality of steps that move along a selected path between landings. In the case of escalators, the steps move in an upward or downward direction to carry passengers between different levels within a building, for example.

It has been desirable to provide a visible indication of the direction of movement of a passenger conveyor to approaching passengers. One approach has been to include visible markings on the outer decking beneath the balustrade associated with the handrail. This approach has been used where the balustrades are not clear. Another approach has been to include the visible marking on the outside of a glass balustrade. A shortcoming to either of these approaches is that they are visible only to passengers approaching the escalator from a straight-on direction. Such indicators may be visible at other particular angles but only from limited vantage points.

Another type of indicator provided previously was to include a post or sign external to the escalator indicating a direction of traffic flow. A shortcoming of such signs is that they are not on any portion of the escalator system and can prove inconvenient to business owners, for example, who are trying to maximize their use of floor space.

There is a need for an improved display to provide individuals a visible indication of the direction of traffic flow of a passenger conveyor, such as an escalator. This invention addresses that need while avoiding the shortcomings and drawbacks of prior approaches.

Moving walkways and other types of passenger conveyors are within the scope of this invention.

5 The steps 22 move in a conventional manner to carry passengers between the landings 24 and 26, which are at opposite ends of the escalator. A handrail 28 moves in a conventional fashion with the steps 22 to provide a handle to stabilize passengers on the escalator. A conventional escalator support structure 30 at least partially covers over some of the operating components of the escalator system in a conventional manner.

10 Handrail entry modules 32 are positioned on opposite sides of the steps at each landing. In this example, each module 32 includes a generally vertical surface 34 having an opening 36, which provides the handrail entry. A support surface 38 extends generally down and out from the vertical surface 34 between the corresponding landing and the vertical surface. In the illustrated example, the surface 38 is at least partially arranged at an oblique angle relative to the landing. In the
15 particular examples of Figures 2 and 3, the surface 38 is rounded or at least partially curvilinear. The position angles and shapes of the surfaces 34 and 36 can be varied to meet the needs of a particular situation. Given this description, those skilled in the art will be able to select what provides them an intended result.

A display 40 is supported by the module 32 and in this example is generally
20 aligned with the support surface 38. The display 40 provides a visible indication of the direction of traffic flow of the escalator. A variety of indicators may be provided on the display 40, depending on the selection of equipment to provide the display. One example indicator is an arrow pointing in the direction of traffic flow. Another example indicator is the word "UP" or the word "DOWN" indicating a direction of
25 escalator traffic flow. Other example indicators useful with a display designed according to this invention include a stop sign, a symbol indicating "no entry," a symbol indicating that an individual is entering a one-way street in the wrong direction or an "X" indicating that an escalator is not properly working and the steps are not moving. Those skilled in the art who have the benefit of this description will
30 be able to select the appropriate display contents to meet the needs of their particular situation.

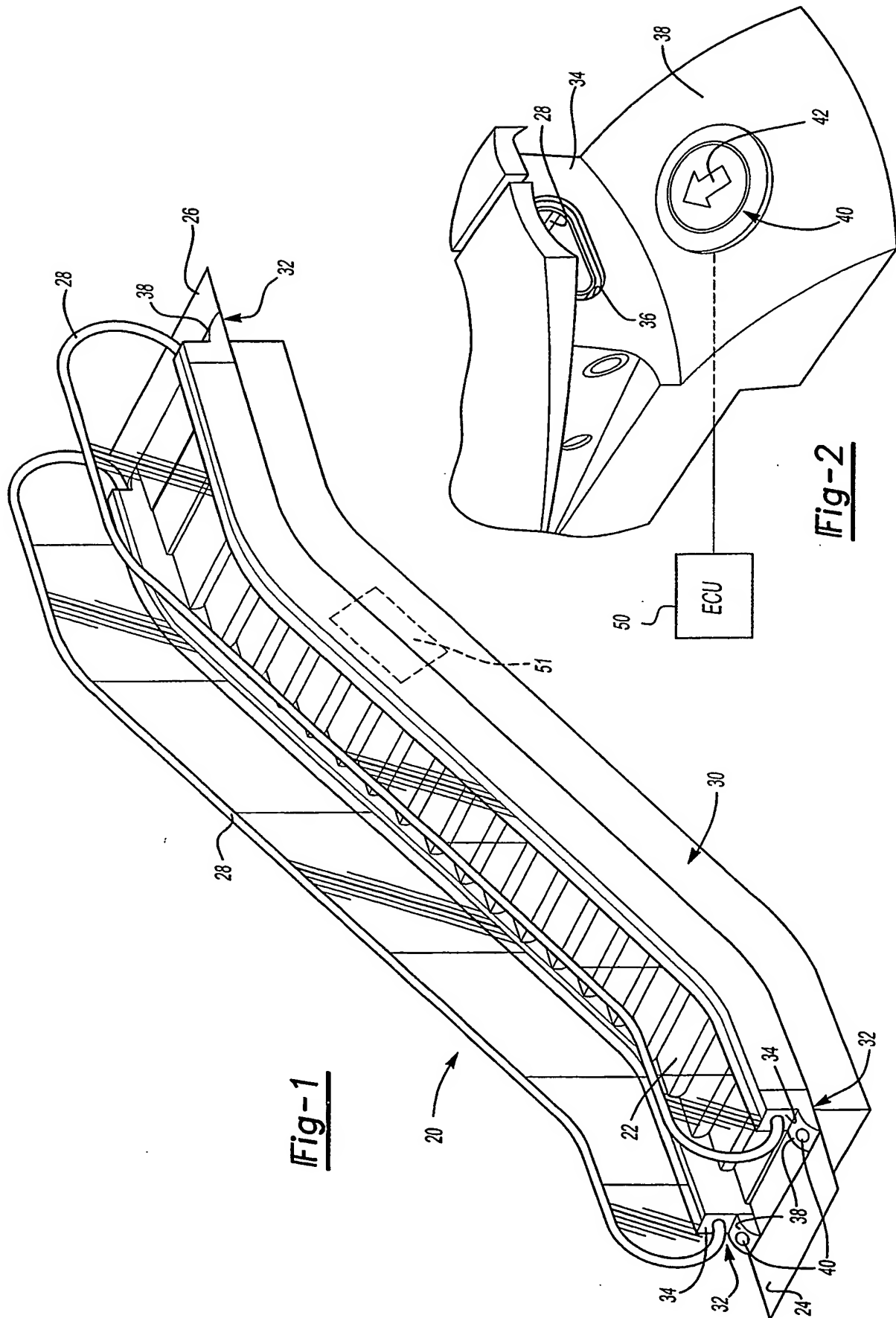
scope of legal protection given to this invention can only be determined by studying the following claims.

9. The device of claim 8, wherein the support surface is curved.

18. The passenger conveyor of claim 10, including a controller that controls the indication on the display and wherein the controller automatically sets the indication to correspond to a direction of movement of the steps.

5 19. The passenger conveyor of claim 18, including a machine that propels the steps in a selected direction and wherein the controller uses information regarding operation of the machine to determine the corresponding indication.

10 20. The passenger conveyor of claim 19, wherein the controller controls operation of the machine and the display.



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US03/10363

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B65G 15/00

US CL : 198/321

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 198/321

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A, E	US 6,564,921 B1 (GORCZYCA) 20 MAY 2003.	ALL
A	US 5,923,005 A (BLONDIAU ET AL.) 13 JULY 1999.	ALL
A	US 5,782,330 A (MEHLERT ET AL.) 21 JULY 1998.	ALL

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"B" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"G" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

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